

IN THE CLAIMS

1. (Currently Amended) An imaging apparatus forming an image by performing scanning by deflecting a light beam, the imaging apparatus comprising:

an image input part configured to input image data obtained from scanning each scan line of an original image; and

a data conversion part that converts a resolution of the image data input by said image input part,

wherein said image input part is configured to input, to said data conversion part, one scan line of the image data a plurality of times in succession; and

said data conversion part converts the resolution into a resolution different for each input scan line;

wherein the data conversion part includes plural data converting parts configured to determine different pulse widths or different pulse intensities for a plurality of scan lines output successively for a single scan, the data converting parts being configured such that rewriteable pulse width data and phase code data may be input, the data converting parts being selected for respective ones of the plurality of scan lines by scan line count values corresponding to the plurality of scan lines to be output so that the converted data is output.

2. (Original) The imaging apparatus as claimed in claim 1, wherein said data conversion part comprises a conversion table using a storage part.

3. (Original) The imaging apparatus as claimed in claim 2, further comprising a control part that sets any value for each of the scanning lines in said conversion table.

4. (Currently Amended) A multi-beam imaging apparatus forming an image by performing scanning by deflecting a plurality of light beams, the multi-beam imaging apparatus comprising:

an image input part configured to input image data obtained from scanning each scan line of an original image; and

a plurality of data conversion parts configured to convert, for each of the plurality of light beams, a resolution of the image data input by said image input part,

wherein said plurality of data conversion parts are configured to perform different conversion operations; and

wherein each data conversion parts includes a register to which rewritable pulse-width data and a rewritable phase code are input and a selector that selects a given one of written contents of the register based on the input multi-level image data.

5. (Original) The multi-beam imaging apparatus as claimed in claim 4, wherein each of the data conversion parts includes a data conversion table using a storage part.

6. (Original) The multi-beam imaging apparatus as claimed in claim 5, further comprising a control part that sets any independent value in each of said conversion tables for the corresponding light beam.

7. (Original) The multi-beam imaging apparatus as claimed in claim 4, wherein said data conversion parts comprise a part that converts the input multi-level image data into modulation code data so that the light beams are output differently from each other based on the modulation code data.

8. (Canceled)

9. (Currently Amended) The multi-beam imaging apparatus as claimed in claim [[8] 4, wherein the rewritable pulse-width data and phase code are matched in advance with a characteristic of the multi-beam imaging apparatus.

10-13. (Canceled)

14. (Currently Amended) An imaging apparatus forming an image by performing scanning by deflecting a light beam, the imaging apparatus comprising:

means for inputting image data obtained from scanning each scan line of an original image; and

data conversion means for converting a resolution of the image data input by said means for inputting,

wherein said means for inputting inputs, to said data conversion means, one scan line of image data a plurality of times in succession; and

said data conversion means converts the resolution into a resolution different for each input scanning line,

wherein the data conversion means includes plural data converting means for determining different pulse widths or different pulse intensities for a plurality of scan lines output successively for a single scan, the data converting means being configured such that rewriteable pulse width data and phase code data may be input, the plural data converting means being selected for respective ones of the plurality of scan lines by scan line count values corresponding to the plurality of scan lines to be output so that the converted data is output.

15. (Original) The imaging apparatus as claimed in claim 14, wherein said data conversion means comprises a conversion table using storage means.

16. (Original) The imaging apparatus as claimed in claim 15, further comprising control means for setting any value for each of the scanning lines in said conversion table.

17. (Currently Amended) A multi-beam imaging apparatus forming an image by performing scanning by deflecting a plurality of light beams, the multi-beam imaging apparatus comprising:

means for inputting image data obtained from scanning each scan line of an original image; and

a plurality of data conversion means for converting, for each of the plurality of light beams, a resolution of the image data input by the means for inputting,

wherein said plurality of data conversion means perform different conversion operations; and

wherein each of said data conversion means includes a register to which rewritable pulse-width data and a rewritable phase code are input and a selector that selects a given one of written contents of the register based on the input multi-level image data.

18. (Original) The multi-beam imaging apparatus as claimed in claim 17, wherein each of the data conversion means includes a data conversion table using storage means.

19. (Original) The multi-beam imaging apparatus as claimed in claim 18, further comprising control means that sets any independent value in each of said conversion tables for the corresponding light beam.

20. (Original) The multi-beam imaging apparatus as claimed in claim 17, wherein said data conversion means comprise means for converting the input multi-level image data into modulation code data so that the light beams are output differently from each other based on the modulation code data.

21. (Canceled)

22. (Currently Amended) The multi-beam imaging apparatus as claimed in claim [[21]] 17, wherein the rewritable pulse-width data and phase code are matched in advance with a characteristic of the multi-beam imaging apparatus.

23. (Previously Presented) The image forming apparatus of claim 1, wherein said data conversion part is configured to convert the resolution of the image data input by said image input part to be a higher resolution.

24. (Previously Presented) The apparatus of claim 4, wherein said data conversion part is configured to convert the resolution of the image data input by said image input part to be a higher resolution.

25. (Currently Amended) A method of forming an image by performing scanning by deflecting a light beam, comprising:

inputting image data obtained by scanning each scan line of an original image;

converting a resolution of the input image data by converting each scan line a plurality of times,

wherein the converting step converts the resolution of the input image data into a different resolution for each input scan line;

wherein the converting step includes determining different pulse widths or different pulse intensities for a plurality of scan lines output successively for a single scan, inputting rewriteable pulse width data and phase code data, and selecting respective ones of the plurality of scan lines by scan line count values corresponding to the plurality of scan lines to be output so that the converted data is output.

26. (Previously Presented) The method of claim 25, wherein the converting step comprises converting the resolution of the image data to be a higher resolution.